

Appl. No. 10/564,616
Amdt. dated March 30, 2010
Reply to Advisory action of Feb. 22, 2010

REMARKS

Claims 5-15 are currently pending in the application. Of those, claim 15 has been canceled.

The above amendments are being made to place the application in condition for allowance.

The drawings were objected because the edge portion joined to the suction connector with the tightly closed bag held therebetween (claim 5) must be shown or the feature(s) canceled from the claim(s). Applicant has modified the claim language so that the bag itself is not being claimed. It is believed the bag is not claimed by the present language since the suction connector and the valve base are “to be mounted” to an outer surface and an inner surface, respectively, of a tightly closed bag.

Claim 15 was rejected under 35 U.S.C. 112, second paragraph, as being indefinite because “the ring member” lacks proper antecedent basis in the claim. This also applies to claim 14. Claim 15 has been canceled and the dependency of claim 14 has been changed to claim 8 rather than claim 7, in order to correct this issue.

Reconsideration of the rejection of claims 5, 7, 9 and 11 under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,332,095 to Wu and U.S. Patent No. 6,712,334 to Motonaka et al is respectfully requested.

Claim 5 is directed to a valve mechanism to be attached to a tightly closed bag for holding its contents by keeping the contents from the ambient air and adapted to open for evacuating air from the tightly closed bag and close for stopping such evacuation, the valve mechanism comprising:

a suction connector 2 to be mounted at a peripheral edge thereof on the outer surface of a tightly closed bag within a hole formed in the bag, the peripheral edge having thickness, *the suction connector 2 having a vent 2a formed in its center and having a shape which does not project relative to the peripheral edge on a side of the suction connector facing outside the tightly closed bag more than the thickness of the peripheral edge;*

a valve base 3 to be mounted on the inner surface of the tightly closed bag and having a recessed shape in cross-section, a suction opening 3b formed in its center as viewed in top plan, and an edge portion 3c adapted to be joined to the suction connector 2 with the tightly closed bag held therebetween; and

a valve body 4 facing the suction opening 3b within the valve base 3 and adapted to open the suction opening upon suction through the vent 2a and close it upon stoppage of the suction, *wherein the valve body 4 is hinged at one end so as to open and close at another end opposite diametrically of the suction opening 3b, and the suction connector 2 is provided with a leg portion 2e which presses against the valve body 4 to thereby lock the valve body over the suction opening.*

Wu discloses a valve mechanism attached to a closed bag having a suction connector (64) mounted on the outer bag surface at a periphery of the bag opening (231), a hole (63) formed in the connector, a vent formed in its center (collectively the holes 63 are in the center), a valve base (3) having a suction opening (32) mounted on the inner surface of the bag, the bag being held between the connector and the base, and a valve body (41) facing the suction opening within the valve base. Wu has a “recess in cross section” for the valve body

between the protrusions (33) and the edge portion of the valve base joined to the suction connector with the tightly closed bag held therebetween.

However, Wu shows the suction connector with a shape that projects relative to its peripheral edge on a side of the suction connector facing outside the tightly closed bag, instead of the suction connector with a shape that does not substantially project relative to its peripheral edge on a side of the suction connector facing outside the tightly closed bag.

In the examiner's opinion, Motonaka et al shows a suction connector with a shape that does not substantially project relative to its peripheral edge on a side of the suction connector facing outside the tightly closed bag. Applicant notes that the examiner does not identify the relied upon elements by their references numerals. Applicant disagrees with the examiner's position that the suction connector of Motonaka et al does not project from the bag. The analogous elements of Motonaka et al are arranged differently from Wu and the invention, and include the valve base 3, the suction connector 2' with a vent 13 formed in its center, and the valve body 1 (element including guide portions 12). The bag B is disposed between the valve body and valve base, rather than the wall 2b of the connector 2 and the valve base. Fig. 9 shows the connector 2' attached to a suction hose D at a top portion of the connector, which clearly is projecting from the bag B. Column 10, lines 41-46 describes the connector 2 of Motonaka et al as having a disc portion 2a with a flat upper surface, and a surrounding wall 2b which surrounds and is integrated with the disc portion 2a, and curves downwardly from the disc portion 2a to form an "arc shape." This wall portion 2b gives the connector a height which is substantially thicker than even the combined peripheral edges of the valve body and valve base holding the bag B therebetween.

Paragraph [0024] of the application specification describes the suction connector as follows:

“The suction connector mounted on the outer side of a tightly closed bag having a hole formed therein is so shaped as not to have any portion projecting from the outer side of the tightly closed bag and has a vent formed in its center. The shape of the suction connector so shaped as not to have any projecting portion means, for example, a flat shape, or a shape which is arcuate in cross section to the extent not exceeding the thickness of its edge portion.”

In Motonaka et al the suction connector is not mounted on the bag at its peripheral edge, rather the valve body is.

Assuming one was compelled to combine the teachings of Motonaka et al with the device of Wu, the claimed invention would not be rendered obvious. This is because both of the elements (2'), (64) which can be considered to be connectors in Motonaka et al and Wu respectively, project substantially relative to their edges. In Motonaka et al, the wall (2b) clearly projects. In Wu, the connector (64) is part of a cover (6) having an annular flange (65) and a flat plate (64) ***spaced apart from***, i.e. projecting from the flange (65). See Wu, col. 4, lines 42-53. Furthermore, the suction connector of Motonaka et al is not mounted on the bag so the recited invention would not be realized according to the examiner's combined device.

Neither Wu nor Motonaka et al taken alone or combined disclose or suggest that the suction connector has a shape which does not substantially project relative to its peripheral edge on a side of the suction connector facing outside the tightly closed bag, where the suction connector is mounted on the outside of the bag. Furthermore, the combined

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references cannot meet the requirement of the *valve base to be mounted on the inner surface of the tightly closed bag and having an edge portion adapted to be joined to the suction connector with the tightly closed bag held therebetween, wherein the valve body is hinged at one end so as to open and close at another end opposite diametrically of the suction opening, and the suction connector is provided with a leg portion which presses against the valve body to thereby lock the valve body over the suction opening.*

Accordingly, the invention is not obvious over Wu in view of Motonaka et al under 35 U.S.C 103 and withdrawal of the rejection is respectfully requested.

Reconsideration of the rejection of claims 6, 8, 10 and 12-15 under 35 U.S.C. 103(a) as being unpatentable over Wu and Motonaka et al as applied to claims 5, 7 and 9 above, and further in view of U.S. Patent No. 5,450,963 to Carson.

Wu and Motonaka et al are relied upon for the claimed device, as discussed above, except for the valve base having an integrally attached ring member and the suction connector having an annular cavity that is correspondingly positioned and dimensioned to fit the ring member.

Carson discloses that it is known in the art to provide an analogous valve base 24 with an integrally attached ring member 26 and an analogous suction connector 46 with a corresponding annular cavity 48.

Applicant agrees that Carson shows these features. However, the Wu and Motonaka et al combination is deficient, and the addition of Carson does not make up for the shortcomings of the Wu and Motonaka et al combination, described above.

None of the applied references taken alone or combined disclose or suggest the combination and the arrangement of a suction connector having a shape which does not substantially project relative to its peripheral edge on a side of the suction connector facing outside the tightly closed bag, and a valve base having a recessed shape in cross-section, a suction opening, and an edge portion adapted to be joined to the suction connector with the tightly closed bag held therebetween, and a valve body facing the suction connector.

Additionally the present application is able to obtain more advantageous effect than references cited as listed below.

Wu, Carson, and Motonaka show that valve is open when the tightly closed bag inside is under high-pressure. Therefore, Wu, Carson, and Motonaka show valve mechanisms which are not tightly closed, because of air flowing into and out of the bag.

Wu, Carson, Motonaka do not show any mechanism similar to the invention to prevent from the valve from opening, when the tightly closed bag is under high-pressure.

Rather, the “covering disk 41” of Wu prevents the valve from opening when the tightly closed bag is under high-pressure inside. The “valve 12” of Carson prevents the valve from opening, when the tightly closed bag is under high-pressure. The “valve plate 6” of Motonaka prevents the valve from opening, when the tightly closed bag is under high-pressure.

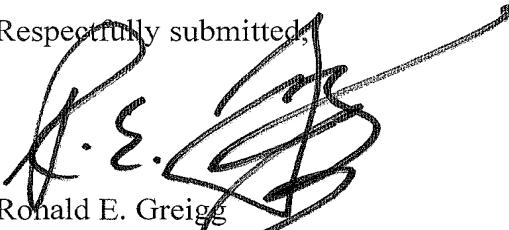
In comparison, when the valve mechanism of present application becomes “locked”, another end of valve body 4 is pressed over the suction opening 3b. More precisely, the valve body 4 is hinged at one end to open and close at another end opposite diametrically of the suction opening 3b. Locking valve body 4 does not open when the tightly closed bag inside is

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under high-pressure because the suction connecter is provided with a leg portion which
presses against the valve body to thereby lock the valve body over the suction opening. This
feature is recited in amended claim 5 which is not found in any of the prior art when taken
alone or combined. This feature is described in paragraphs [0034] and [0039] of the
specification.

Accordingly withdrawal of the all of the rejections under 35 U.S.C 103 is respectfully
requested, as the rejections of the dependent claims are based upon the above first rejection,
which Applicant believes to be moot in view of the presented remarks.

Entry of the amendment is respectfully solicited.

Respectfully submitted,

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